



TITLE:

Studies on the Fibrous Acetylation of Cotton. (III) : Some Properties of Acetylated Cotton

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ABSTRACTS

In the present study tensile properties of the fabrics were examined before and after acetylation and it was found that under proper conditions the cotton fabric could be acetylated up to high degree by the liquid phase method without lowering the tensile strength.

The preparation method of acetylation bath and its stability, the comparison of various catalyzers and diluents are discussed.

Acetylation of Cotton Fabric by the Semi-Liquid Phase Method (So-Called Padding Method)

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*Sen-i Gakkaishi (Journal of the Society of Cellulose
and Textile Industry, Japan)*, **16**, 1026 (1960)

Cotton fabrics, pretreated with acetic acid, were immersed in the acetylation bath, which consists of acetic anhydride and catalyzer, and squeezed to about 60-70% pick-up and then heated in a closed vessel. During these processes the cotton fabrics are acetylated. In this acetylation method, almost all parts of acetic anhydride contained in fabrics are consumed in the reaction and cotton fabrics are acetylated to about 30 mol% without lowering the tensile strength in a very short time.

This method would be advantageous applied to an industrial continuous acetylation, because the immersion in liquid and the reaction could be finished in an extremely short time.

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*Sen-i Gakkaishi (Journal of the Society of Cellulose and Textile
Industry, Japan)*, **17**, 235 (1961)

Various properties of acetylated cotton, which have been prepared by the method reported in our previous papers were examined in detail. Properties examined are as follows: tensile properties, water and moisture absorption, specific gravity, microscopic structure, thermal and electric properties, abrasion resistance, weathering resistance, resistance to acid, flammability, dyeability, shrinkage by water boiling, soiling and soil removal, etc.